

Remarks

The Final Office Action dated March 17, 2010 has been carefully considered. Applicants have amended claim 20 and added new claims 36-43 without the addition of new matter. In light of the amendments and the following remarks, Applicants respectfully submit the claims are now in condition for allowance.

Claim Rejections 35 USC § 103

In the Office Action, claims 20, 21, 24, 31, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qin et al. (US Pat. No. 5,985,434) in view of Eagles et al. (US Pat. No. 5,840,777).

Claims 20, 21, 24, 31, 34, and 35 are directed to a process consisting of the steps set forth therein and thereby exclude the step of “*cooling the solution to a temperature that is below the freezing point of the solvent such that the solvent freezes and becomes a solid phase in the solution*” as required by Qin et al and set forth in Column 12, line 8, to Column 13 line 38. Furthermore, the current claims do not include the process step in Qin et al. of removing the frozen solvent from the solution (col 13, lines 39-56). According to amended claim 20, the process for making the water-absorbent, foam-type polymer structures of the present invention is based on i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C. Preparing the foamed aqueous composition by means of mechanical action, instead of a process wherein the aqueous composition is frozen, as defined by Qin et al., has the advantage that a foamed composition is obtained which is not solid,

but which can be applied onto a surface by spread-coating, knife application or pouring (page 19, lines 17-29). Such a non-solid foamed composition can also be applied to the surface of the substrate in defined areas, for example by the use of templates or screens (page 19, line 31 to page 20, line 7). The frozen, solid compositions disclosed in Qin et al. can not be easily applied to surfaces using such coating process.

Accordingly, the process steps in Qin et al. include the additional steps of cooling the solution to a temperature that is below the freezing point of the solvent and removing the frozen solvent from the composition. In addition, as set forth in the Final Office Action on page 4, Qin et al. does not teach that the foaming of the aqueous composition is by mechanical action. Hence, Qin et al. fails to disclose or suggest a process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

As set forth on page 4 of the Final Office Action, Eagles et al. teaches a method of forming an absorbent foam where the foam is mechanically foamed. However, Eagles et al. fails to overcome the nondisclosure in Qin et al. of the process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

In view of the foregoing remarks, it is requested that the rejection of claims 20, 21, 24, 31, 34, and 35 under 35 U.S.C. 103(a) as being unpatentable over Qin et al. in view of Eagles et al. be withdrawn.

In the Final Office Action, claims 22, 25, 26, 28-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qin et al. (US Pat. No. 5,985,434) in view of Eagles et al. (US Pat. No. 5,840,777) as applied to claim 20 above, and further in view of Hähnle et al. (Intl. Pub. No. WO 00/52087, English language equivalent US Pat. No. 6,750,262 used for citation purposes).

As set forth above, the current claims exclude the freezing and solvent removal step of Qin et al. Hähnle et al. fails to overcome the nondisclosure in Qin et al. of the process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

In view of the foregoing remarks, it is requested that the rejection of claims 22, 25, 26, 28-30, and 32 under 35 U.S.C. 103(a) as being unpatentable over Qin et al. in view of Eagles et al., and further in view of Hähnle et al. be withdrawn.

In the Final Office Action, claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qin et al. (US Pat. No. 5,985,434) in view of Eagles et al. (US Pat. No. 5,840,777) as applied to claim 20 above, and further in view of Ishizaki et al. (US Pat. No. 6,001,911).

As set forth above, the current claims exclude the freezing and solvent removal steps of Qin et al. Ishizaki et al. fails to overcome the nondisclosure in Qin et al. of the process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

In view of the foregoing remarks, it is requested that the rejection of claim 23 under 35 U.S.C. 103(a) as being unpatentable over Qin et al. in view of Eagles et al. and, further in view of Ishizaki et al. be withdrawn.

In the Final Office Action, claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qin et al. (US Pat. No. 5,985,434) in view of Eagles et al. (US Pat. No. 5,840,777) and Hähnle et al. (Intl. Pub. No. WO 00/52087, English language equivalent US Pat. No. 6,750,262 used for citation purposes) as applied to claim 25 above, and further in view of Brueggemann et al. (US Pat. No. 6,033,769).

As set forth above, the current claims exclude the freezing and solvent removal steps of Qin et al. Brueggemann et al. fails to overcome the nondisclosure in Qin et al. of the process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

In view of the foregoing remarks, it is requested that the rejection of claim 27 under 35 U.S.C. 103(a) as being unpatentable over Qin et al. in view of Eagles et al. and further in view of Brueggemann et al. be withdrawn.

In the Final Office Action, claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qin et al. (US Pat. No. 5,985,434) in view of Eagles et al. (US Pat. No. 5,840,777) as applied to claim 20 above, and further in view of Chen et al. (US Pub. No. 2001/0024716).

As set forth above, the current claims exclude the freezing and solvent removal steps of Qin et al. Chen et al. fails to overcome the nondisclosure in Qin et al. of the process for producing water-absorbent, foam-type polymer structures consisting of the steps of i) preparing an aqueous composition (A), ii) foaming the aqueous composition (A) by mechanical action, and iii) heating the foamed aqueous composition of step ii) to a temperature in a range of from about 50 to about 300°C.

In view of the foregoing remarks, it is requested that the rejection of claim 33 under 35 U.S.C. 103(a) as being unpatentable over Qin et al. in view of Eagles et al., and further in view of Chen et al. be withdrawn.

Conclusion

In light of the amendments and remarks presented herein, it is submitted that the application is in a scope and form for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone Applicants' counsel at the indicated number provided below.

Respectfully submitted,

/Philip P. McCann/

Philip P. McCann
Registration No. 30,919

SMITH MOORE LEATHERWOOD LLP
P.O. Box 21927
Greensboro, NC 27420
(336) 378-5302
phil.mccann@smithmoorelaw.com

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